

AMENDMENTS TO THE SPECIFICATION

Please amend the Specification at page 25, the paragraph between lines 7 and 21 as follows:

The syndrome decoding unit 33 calculates syndrome $S_B = Hm_B$ of m_B by the parity check matrix H and the ~~transmission-reception~~ data m_B and further calculates syndrome $S = S_A + S_B$ by the syndrome S_A of m_A and the syndrome S_B of m_B (step S15). The syndrome decoding unit 33 estimates transmission data m_A based on the syndrome S (step S16). At this point, it is assumed that $m_A = m_A + e$ (noise and the like) and the syndromes is deformed as shown in the equation (15). "e" is accordingly obtained by syndrome decoding, and the transmission data m_A is obtained (step S16). "+" of $S = S_A + S_B$ and $m_A + e$ indicates exclusive OR.

$$\begin{aligned} S &= S_A + S_B \\ &= Hm_A + Hm_B \\ &= H(m_A + m_B) \\ &= H(m_A + m_A + e) \\ &= HE \end{aligned} \tag{15}$$

The syndrome decoding unit 33 calculates syndrome $S_B = Hm_B$ of m_B by the parity check matrix H and the reception data m_B and further calculates syndrome $S = S_A + S_B$ by the syndrome S_A of m_A and the syndrome S_B of m_B (step S15). The syndrome decoding unit 33 estimates transmission data m_A based on the syndrome S (step S16). At this point, it is assumed that $m_A = m_A + e$ (noise and the like) and the syndromes is deformed as shown in the equation (15). "e" is accordingly obtained by syndrome decoding, and the transmission data m_A is obtained (step S16). "+" of $S = S_A + S_B$ and $m_A + e$ indicates exclusive OR.

$$\begin{aligned} S &= S_A + S_B \\ &= Hm_A + Hm_B \\ &= H(m_A + m_B) \\ &= H(m_A + m_A + e) \\ &= HE \end{aligned} \tag{15}$$